

Because the resin injection port can be provided at any corner of the die pad, there is no specific element location with an item number shown in the figures illustrating preferred embodiments of the present invention. Withdrawal of the rejection is respectfully requested in view of the reasons set forth above.

III. THE CLAIMS CONTAIN ALLOWABLE SUBJECT MATTER

The Office Action rejects claims 1-7 and 11-14 under 35 U.S.C. §103(a) as being unpatentable over Inoue et al. (U.S. Patent No. 5,733,802) in view of Hara (U.S. Patent No. 5,498,902) and further in view of JP Doc. 11-111746. These rejections are respectfully traversed.

A. CLAIMS 1 AND 12

The Office Action admits that Inoue et al. and Hara do not disclose the claimed feature of support pins along the axis of the resin injection site. However, the Office Action asserts that this deficiency is made up by JP Doc. 11-111746. Based on the careful review of JP Doc. 11-111746, Applicant believes the 103(a) rejection to be unreasonable.

The JP Doc. 11-111746 does not disclose support pins along the axis of the resin injection port. The Office Action cites Fig. 2 as disclosing this claimed feature. However, Fig. 2 does not show the resin injection port, and instead the items depicted in Fig. 2 are only a die pad 4a, a die pad support 8, a semiconductor clip 1, and indented areas defined in the die pad 4a. Since Fig. 2 does not show the resin injection port, it is not possible for one skilled in the art at the time the present invention was made to modify Inoue et al. and Hara to incorporate the features disclosed by Fig. 2 of JP Doc. 11-111746 to achieve the advantages provided by the present invention. Moreover, the features claimed in the present invention are aimed to fix the slight tilting problem of semiconductor assembly existing in the prior art, as shown in Figure 10, due to the flow of the injected resin. Therefore, it is not possible to fix the prior art problem with movable support pins. JP Doc. 11-111746 discloses a pair of

movable support pins 6 used in the upper mold and a pair of movable support pins 7 used in the lower mold of the semiconductor assembly so that the “shift” can be decreased during the resin injection. See page 3, paragraph 0012 of JP Doc. 11-111746. In other words, JP Doc. 11-111746 discloses a similar mechanism for solving the prior art problems as the Hara patent, which discloses “semiconductor device mounting area ... is held inside the resin formation mold from the top and the bottom using a pair of movable pins in the connection area of the semiconductor device.” See page 5, lines 20-24 of Hara patent.

Thus, it is impossible for a person of ordinary skill in the art at the time the invention was made to modify the teachings of Inoue et al. and Hara with the teachings of JP Doc. 11-111746 to arrive at the claimed invention because the features claimed in the present invention are not disclosed, taught or suggested in any of the aforementioned references.

Therefore, it is not obvious to modify Inoue et al. and Hara to make up for the above deficiencies. For example, the claimed invention answers the problems of 1) slight tilting or movement of the semiconductor assembly, and 2) the die pad or wires being exposed from the surface of the cured resin. None of the applied art provides any disclosure of these advantages. Most of all, the only motivation to modify Inoue et al. and Hara to make up for these deficiencies are derived from Applicant’s own disclosure, which constitutes impermissible hindsight reasoning.

B. SUMMARY

Applicant would like to thank Examiner Lee Jr. for pointing out allowable subject matter in claims 15-30 and a thorough search of prior art.

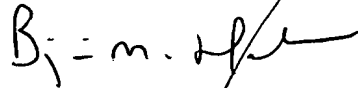
For all the foregoing reasons, it is submitted that independent claims 1, 12 and 15 are allowable. It is also submitted that dependent claims 2-11, 13-14 and 16-30 depending there from, are similarly allowable, for at least the reasons discussed above as well as for the added features they recite. Withdrawal of the prior art rejections is respectfully requested.

IV. CONCLUSION

In view of the foregoing remarks, Applicant submits that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned representative at the telephone number listed below.

Respectfully submitted,



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Attachment:
Petition for Extension of Time

Date: December 28, 2001

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